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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,778	02/09/2004	Gregor Dudziak	Bayer 10269-WCG	8841
27386 7590 07/19/2007 NORRIS, MCLAUGHLIN & MARCUS, P.A. 875 THIRD AVE 18TH FLOOR NEW YORK, NY 10022			EXAMINER MENON, KRISHNAN S	
			ART UNIT 1723	PAPER NUMBER
			MAIL DATE 07/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/774,778

Applicant(s)

DUDZIAK ET AL.

Examiner

Krishnan S. Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-8 and 10-17 are pending as amended 12/27/06 in the RCE..

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3-8,10,11, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Cohen (US 6,440,309).

Cohen teaches a process for separation from non-aqueous solutions of a substance by pervaporation – pervaporation is a process of separating liquid mixtures using a membrane (abstract, and column 1 lines 1-23). Membrane is porous with pore size less than 2-50 nm (20-500Å), formed on a ceramic substrates (alumina, etc: column 6 lines 50-65), and hydrophobic coating applied by reaction with tetraethoxysilane (column 6 lines 1-25). Surface is hydrophobic – the silane used is as claimed – see the structure in column 6.

2. Claims 1-8,10,11 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Karau, et al (US 6,472,571).

Karau teaches a process for separation from a non-aqueous homogeneous or colloidal solution of a catalyst (abstract, column 2, lines 38-44), with a ceramic

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membrane having a hydrophobic coating of alkoxysilanes as claimed (see the silanes in column 3, lines 45-67).

Membrane porosity is less than 10 nm preferred (column 4, lines 1-10).

Ceramic is alumina, etc (column 4, lines 9-17)

Non-aqueous solvents taught; specific examples are THF and methanol. (table 1 and 2, examples)

Temperature is in the range claimed – column 2, 3-10; more over, the range includes ambient, and unless the reference specifies a temperature, ambient temperature would be implied. Pressure required for the membrane process also would be implied in the reference, unless applicant can show criticality of the range.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, and 12-14 are rejected under 35 U.S.C. 102 (b) as anticipated by Cohen, or in the alternative, under 35 USC 103(a) as being unpatentable over Cohen as applied to claim 1 above and further in view of WO 01/07157.

Instant claims differ from the teaching of Cohen in having the solute as a catalyst. However, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will

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be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). In the instant case, the membrane used is the same as claimed, therefore Cohen reference could be considered as anticipating the claims.

WO teaches a process for separating solutes or colloids such as catalysts (page 7, 8: rhodium-organophosphite complex) from a non-aqueous solution. Membrane is ceramic (alumina, zirconia: page 10), with hydrophobic coating (the sub-nanoporous coating of metal or ceramic or inorganic polymeric material is a coating (page 7) (but WO does not teach the specific silane claimed). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of WO in the teaching of Cohen to use the Cohen membrane for such applications as taught by WO. One would use the Cohen membrane for such applications because of the advantages of Cohen membrane as taught in column 5 lines 44-63 and column 7 lines 47-52.

4. Claims 12-14 are rejected under 35 U.S.C. 102(b) as anticipated by Karau, or alternately, under 35 USC 103(a) as being unpatentable over Karau as applied to claim 2 in paragraph 2 above, and further in view of WO 01/07157.

Claims differ from the reference in the teaching of the catalyst. However, as stated in paragraph 3 above, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the

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method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). In the instant case, the membrane used is the same as claimed, therefore Karau reference could be considered as anticipating the claims.

WO teaches a process for separating solutes or colloids such as catalysts (page 7, 8: rhodium-organophosphite complex) from a non-aqueous solution. Membrane is ceramic (alumina, zirconia: page 10), with coating (the sub-nanoporous coating of metal or ceramic or inorganic polymeric material is a coating (page 7) (but WO does not teach the specific silane claimed). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of WO in the teaching of Karau to use the Karau membrane for such applications as taught by WO. One would use the Karau membrane for such applications because of the advantages of Karau membrane, such as extremely high retention ability of the catalyst, as taught in column 2, lines 51-64.

Response to Arguments

Applicant's arguments filed 7/16/07 have been fully considered but they are not persuasive.

Arguments traversing the rejection over Cohen:

Arguments about the method of forming the silane coating are not persuasive because the claims recite "hydrophobic coating formed by reaction of the membrane

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surface with silane of the formula $R_1R_2R_3R_4Si \dots$, which is what the reference teaches. The structure of the reference membrane reads on the generic structure recited in the claims. Arguments are not commensurate in scope with the claims.

Argument that the reference membrane is a pervaporation membrane is also not persuasive because the membrane has the same structure as claimed. Argument that the mechanism of pervaporation is different from that of nanofiltration is also not persuasive – not commensurate in scope with the claims. Applicant's claims recite a pore size of less than 30 nm. Reference membrane has pore sizes less than 50 nm. Argument that pervaporation membranes are "closed" and "normally of polymeric material" are also not commensurate in scope with the claims – the reference membrane structure reads on the applicant's claims. Argument that process of Cohen is completely different is also not persuasive: applicant's claims recite "a process for the separation from a non-aqueous solvent of a substance which is present in said non-aqueous solvent in dissolved form ...", reads on the reference. Even if the reference teaches only pervaporation, it is about separating a non-aqueous solvent from a "substance" which is dissolved or colloidal form in the non-aqueous solvent. The non-aqueous solvent passes through the membrane. Liquids are also "substances".

Arguments traversing the rejection over the Karau reference: arguments are not commensurate in scope with the claims. Arguments specifically pointing out the working examples do not address the rejection at all. The reference is good for all it teaches, not just the working examples.

With respect to the arguments over the 103 rejections over Cohen in view of WO, the argument is not commensurate in scope with the rejection. WO was used to show that the membrane of Cohen can be used for the stated application in the claims.

Applicant does not seem to have addressed the 103 rejection over Karau in view of WO of claims 12-14.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Krishnan S Menon
Primary Examiner
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